Hawaii Electric Light Company's Commercial & Industrial Energy Efficiency Program

"Environmental Education and Recognition Group"

Mauna Lani Bay Hotel

HELCO Commercial & Industrial Energy Efficiency Program

WHAT IS IT?

Through this PUC-approved program, HELCO provides financial incentives to customers who install energy efficient electric equipment.

WHO BENEFITS FROM IT?

Participating Customers

The Utility Company

Contractors and Equipment Suppliers

The Big Island Community

HELCO Commercial and Industrial Energy Efficiency Program

HELCO's Program Offers Incentives For:

Prescribed Measures in:

- Existing Facilities (CIEE)
- New Construction (CINC)

Customized Projects in:

- Existing Facilities (CICR)
- New Construction (CINC)

HELCO Commercial and Industrial Energy Efficiency Program

Incentives Offered for the Following Efficiency Measures:

Lighting:	T-8 Fluorescent Lamps w/Electronic Ballasts
	Occupancy Sensors
	Specular Optical Reflectors*
Space Cooling:	Efficient DX AC Units
	Efficient Liquid Chillers
Motors:	Efficient Motors
Refrigeration:	Mechanical Subcooling*
Customized:	Customer Proposals for Cost-Effective Energy Efficient Equipment

* Not available for new construction

C & I Energy Efficiency Program Prescribed Measures

Prescribed energy-saving measures:

- T-8 Lamps and Electronic Ballasts
- Occupancy Sensor Controls
- Specular Optical Reflectors*
- Efficient DX Air Conditioners
- Efficient Liquid Chillers
- Refrigeration w/ Mechanical Subcooling*
- Efficient Motors

*Measures with asterisk not available in new construction.

C & I Energy Efficiency Program
Prescribed Lighting Incentives

FLUORESCENT LIGHTING		
Lamp with Electronic Ballast	Incentive Amount Per Lamp	
	Retrofit	New Construction
2' T8	$2.40	$1.30
3' T8	$2.60	$1.45
4' T8	$2.80	$1.60
5' T8	$3.00	$1.75
8' T8	$3.60	$2.20
CFL	$5.00*	N/A

* For compact fluorescent lamps replacing incandescent lamps in hotel guest rooms, commercial metered condominium guest rooms, and military barracks and housing units (effective 11/10/97).

OCCUPANCY SENSORS & OPTICAL REFLECTORS		
Equipment	Incentive Amount	
	Retrofit	New Construction
Occupancy Sensor	$20 per unit	$20 per unit
Specular Optical Reflector	$5 per 2' lamp removed $10 per 4' lamp removed $15 per 8' lamp removed	N/A

C & I Energy Efficiency Program
Prescribed Space Cooling Incentives

DIRECT EXPANSION AIR CONDITIONERS			
Equipment	Qualifying Efficiency	Incentive Amount	
		Retrofit	New Construction
Single package air cooled unitary A/C			
less than 65 MBtu	11.1 SEER (min)	$45 per ton	$60 per ton
Split system air cooled unitary A/C			
less than 65 MBtu	10.8 SEER (min)	$45 per ton	$60 per ton
Single and split systems air cooled unitary A/C			
65-135 MBtu	9.9 EER (min)	$45 per ton	$60 per ton
over 135 MBtu	9.5 EER (min)	$45 per ton	$60 per ton
Single and split systems water/evaporatively cooled unitary A/C			
less than 65 MBtu	10.4 EER (min)	$45 per ton	$60 per ton
65-135 MBtu	11.7 EER (min)	$45 per ton	$60 per ton
over 135 MBtu	10.7 EER (min)	$45 per ton	$60 per ton
An additional $3/ton is paid for each 0.1 point above the qualifying efficiency.			

CHILLERS			
Equipment	Qualifying Efficiency	Incentive Amount	
		Retrofit	New Construction
Centrifugal Chiller			
less than 150 tons	0.69 kW/ton (max)	$35 per ton	$45 per ton
150-250 tons	0.65 kw /ton (max)	$30 per ton	$40 per ton
more than 250 tons	0.62 kW/ton (max)	$25 per ton	$35 per ton
Rotary or Screw Chiller			
less than 150 tons	0.75 kW/ton (max)	$25 per ton	$35 per ton
150-250 tons	0.70 kW/ton (max)	$25 per ton	$35 per ton
more than 250 tons	0.65 kW/ton (max)	$25 per ton	$35 per ton
An additional $3/ton is paid for each 0.01 kW/ton lower than the qualifying efficiency.			

C & I Energy Efficiency Program
Prescribed Efficient Motor Incentives

QUALIFYING EFFICIENCIES FOR 3 PHASE MOTORS Retrofit and New Construction							
	2 Pole 3600 RPM		4 Pole 1800 RPM		6 Pole 1200 RPM		
hp	ODP	TEFC	ODP	TEFC	ODP	TEFC	Incentive
1			84.7	84.5	82.0	82.0	$15
1.5	84.5	84.0	86.2	86.0	86.0	86.5	$22.50
2	86.0	85.5	86.2	86.0	87.5	87.5	$30
3	86.0	87.0	88.7	89.5	88.5	89.5	$45
5	87.5	89.0	89.5	89.5	89.5	89.5	$50
7.5	89.5	90.0	90.7	91.0	90.5	91.5	$75
10	90.2	91.0	91.7	91.5	91.7	91.5	$100
15	91.0	91.7	93.0	92.4	92.2	92.2	$120
20	92.2	91.7	93.2	93.0	92.4	92.2	$160
25	93.0	92.0	93.6	93.5	93.1	92.7	$200
30	93.0	92.0	93.6	93.5	93.6	92.7	$210
40	93.0	92.7	94.2	94.1	94.1	94.0	$240
50	93.3	93.0	94.2	94.1	94.1	94.0	$300
60	93.9	94.0	94.8	94.7	94.7	94.6	$360
75	93.9	94.0	95.3	95.2	94.7	94.6	$450
100	93.9	94.6	95.3	95.4	95.2	95.1	$600
125	94.5	95.4	95.4	95.6	95.2	95.1	$750
150	94.5	95.5	96.2	95.8	95.6	95.8	$900
200	95.4	96.0	96.2	96.1	95.4	96.0	$1,200
250	95.4		96.2	95.8	96.2	96.0	$6 per hp
300	95.4		96.2	96.2	96.2	96.0	$6 per hp
350	95.9		96.2	96.2			$6 per hp
400	96.3		96.2	96.2			$6 per hp
450			96.2	96.2			$6 per hp

ODP - Open Drip Proof
TEFC - Totally Enclosed Fan Cooled
NEMA - National Electrical Manufacturers Assoc
Incentive levels are subject to change.

C & I Energy Efficiency Program Customized Measures

Qualifying Technologies

- "CFL" Compact Fluorescent Lighting
- "ASD" Adjustable Speed-Drive on Fans, Pumps and/or Chillers
- Window Tinting Film
- Feasibility Study
  - Existing Buildings
  - Study Potential Energy Projects
  - Assess the Energy Savings
  - Estimate Installation Cost

C & I Energy Efficiency Program
Customized Measures

ANY EE MEASURE THAT SAVES ELECTRICITY MAY BE ELIGIBLE

Incentives for measures not specified in Prescribed Measures.

Case by case qualification of measures.

Incentives are based on the incremental cost of the efficient technology over the base technology.

C & I Energy Efficiency Program Customized Measures

May include but not limited to:

- Heat pumps & efficient water heating
- Energy Management Systems
- Adjustable speed drives

Project payback must be >2 years

Project must be economically feasible:
pass the Total Resource Cost Test (TRC)

C & I Energy Efficiency Program Customized Measures

Feasibility Study Option:

- Applicable to both existing facilities and new construction.
- To Identify/Evaluate Energy Efficiency or Demand Reduction measures.
  - Pre-approval required.
  - Not to exceed 50% of cost or $2,500 whichever is less.

HELCO Commercial and Industrial Energy Efficiency Program

Incentive Example

Technology: VSD on a 400 Ton Chiller	
Total Project Costs:	$ 68,925.00
Less HELCO Rebate:	$ 10,300.00
Net Project Cost:	$ 58,625.00
Annual Energy Savings	155,993 kWh
Demand (kW) Savings	20 kW
Payback Without HELCO Rebate:	4.38 years
Payback With HELCO Rebate:	3.73 years
Equipment Life:	15 to 18 years

HELCO Commercial and Industrial Energy Efficiency Program

Incentive Example

Technology: T-8 Fluorescent Lighting with E/Ballast	
Total Project Costs:	$ 56,849.12
Less HELCO Rebate:	$ 10,486.00
Net Project Cost:	$ 46,363.12
Annual Energy Savings	350,559 kWh
Demand (kW) Savings	64.21 kW
Payback Without HELCO Rebate:	1.10 years
Payback With HELCO Rebate:	.83 years

HELCO Commercial and Industrial Energy Efficiency Program

Impacts 1996-2001

Big Island C&I customers received over $1,200,000 in HELCO financial incentives

and

saved over 23,000,000 kWh of energy

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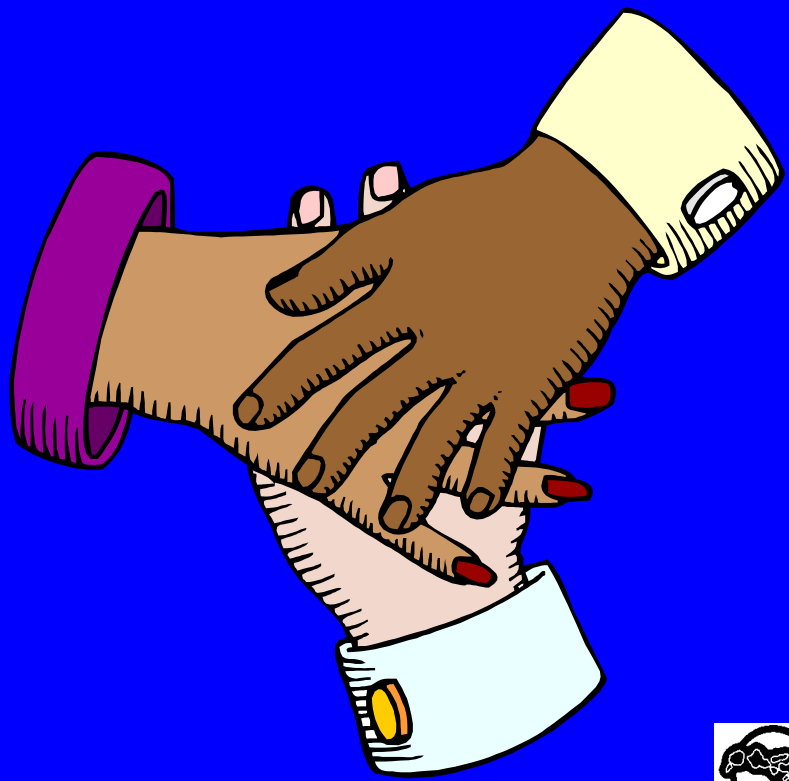
over 1.8 million gallons of oil the Big Island did not need to IMPORT!!

HELCO Commercial and Industrial Energy Efficiency Program

Let's all work together to make the Big Island Energy Efficient…



C & I Energy Efficiency Program Customized Measures

Existing Facilities

- Incentives are paid as follows:
  - $125 per kW reduction of demand
  - $0.05 per kWh saved in the first year
  - Not to exceed 50% of the incremental cost
- **NOTE:** kW demand savings must occur between 5-9 pm weekdays, or project earns energy savings incentive only.

C & I Energy Efficiency Program Customized Measures

New Construction

- Incentives are paid as follows:
  - $125 per kW reduction of demand
  - $0.06 per kWh saved in the first year
  - Not to exceed 100% of the incremental cost
- **NOTE:** kW demand savings must occur between 5-9 pm weekdays, or project earns energy savings incentive only.

C & I Energy Efficiency Program Customized Measures

Application Process

- Customer submits brief project proposal.
- If approved, customer submits a detailed project proposal with feasibility analysis.
- HELCO may require verification of energy and demand savings by a P.E.
- HELCO's written approval required before project starts.
- When project is complete, submit Part II of application along with invoices.
- Projects may be subject to verification inspections at any time in the application and approval process.

C & I Energy Efficiency Program Customized Measures

Design Assistance

- Design assistance can provide funds for designers to fully evaluate Energy Efficiency alternatives.
- Available for New Construction Projects Only.
- Design assistance will be considered on a case by case basis, and as resources allow.